

Wireless Moisture Sensing Irrigation

What is this Technology?

Whereas incumbent technologies project the need for irrigation based on a clock or weather station information, this technology measures the actual soil moisture directly at the plant root level in real time. Captured information is transmitted wirelessly and aggregated in the cloud. Based on algorithms, fault detection and business rules, irrigation is applied in the precise amounts needed, and leaks and broken sprinkler heads can be detected.

Why is GSA Interested?

This technology promises to significantly reduce irrigation water use.



WATER CONSERVATION The manufacturer estimates that this technology enables water savings of between 20% and 50%, depending on climate, the vegetation's irrigation needs, and the level of operator sophistication, relative to incumbent technologies.



COST EFFECTIVENESS Potential for water savings will be the greatest for sites with large irrigation needs, and payback shortest in climates with high water tariffs. The manufacturer estimates payback at between 6 and 18 months.



OPERATIONS & MAINTENANCE Wireless capability and cloud based software enables facility operators to monitor irrigation performance “anyplace/anytime”, enhancing their ability to maintain proper soil moisture, improve landscaping health and reduce the environmental impact of leaching and runoff.



DEPLOYMENT POTENTIAL In addition to validating this technology's real-world performance, a key component of this assessment will be to develop a checklist of site requirements needed to prioritize its potential for deployment by GSA, should its performance prove out. These requirements will include location and climate, landscape area, average irrigation zone size, water utility rate, and the efficiency of the existing irrigation system.

Adapted from a report by the National Renewable Energy Laboratory. The Green Proving Ground program, in association with a federal laboratory, is subjecting the wireless moisture sensing irrigation system to real-world measurement and verification in GSA buildings. Findings from that investigation will be available in late 2013 or early 2014.